Biswanath Mukherjee

List of Publications by Year
in descending order

164 papers	5,369 citations	109137 35 h-index	95083 68 g-index
166 all docs	166 docs citations	166 times ranked	3111 citing authors

#	Article	IF	Citations
1	A Survey on OFDM-Based Elastic Core Optical Networking. IEEE Communications Surveys and Tutorials, 2013, 15, 65-87.	24.8	304
2	Energy Efficiency in Telecom Optical Networks. IEEE Communications Surveys and Tutorials, 2010, 12, 441-458.	24.8	300
3	Title is missing!. Photonic Network Communications, 2002, 4, 89-107.	1.4	285
4	Hybrid Wireless-Optical Broadband-Access Network (WOBAN): A Review of Relevant Challenges. Journal of Lightwave Technology, 2007, 25, 3329-3340.	2.7	267
5	Ethernet PON (ePON): Design and Analysis of an Optical Access Network. Photonic Network Communications, 2001, 3, 307-319.	1.4	264
6	Optical Network Design With Mixed Line Rates and Multiple Modulation Formats. Journal of Lightwave Technology, 2010, 28, 466-475.	2.7	230
7	A survey on routing algorithms for wireless Ad-Hoc and mesh networks. Computer Networks, 2012, 56, 940-965.	3.2	223
8	Building a Green Wireless-Optical Broadband Access Network (WOBAN). Journal of Lightwave Technology, 2010, 28, 2219-2229.	2.7	190
9	Design of Disaster-Resilient Optical Datacenter Networks. Journal of Lightwave Technology, 2012, 30, 2563-2573.	2.7	157
10	Disaster survivability in optical communication networks. Computer Communications, 2013, 36, 630-644.	3.1	138
11	Survivable Traffic Grooming in Elastic Optical Networksâ€"Shared Protection. Journal of Lightwave Technology, 2013, 31, 903-909.	2.7	130
12	Network adaptability from disaster disruptions and cascading failures. IEEE Communications Magazine, 2014, 52, 230-238.	4.9	128
13	Minimizing the Risk From Disaster Failures in Optical Backbone Networks. Journal of Lightwave Technology, 2014, 32, 3175-3183.	2.7	118
14	A Survey on Resiliency Techniques in Cloud Computing Infrastructures and Applications. IEEE Communications Surveys and Tutorials, 2016, 18, 2244-2281.	24.8	110
15	Dynamic Traffic Grooming in Elastic Optical Networks. IEEE Journal on Selected Areas in Communications, 2013, 31, 4-12.	9.7	99
16	Availability-Aware Provisioning Strategies for Differentiated Protection Services in Wavelength-Convertible WDM Mesh Networks. IEEE/ACM Transactions on Networking, 2007, 15, 1177-1190.	2.6	90
17	Energy-Efficient Virtual Base Station Formation in Optical-Access-Enabled Cloud-RAN. IEEE Journal on Selected Areas in Communications, 2016, 34, 1130-1139.	9.7	85
18	Demand-Aware Network Function Placement. Journal of Lightwave Technology, 2016, 34, 2590-2600.	2.7	73

#	Article	IF	Citations
19	A novel delay-aware routing algorithm (DARA) for a hybrid wireless-optical broadband access network (WOBAN). IEEE Network, 2008, 22, 20-28.	4.9	70
20	Green Provisioning for Optical WDM Networks. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 437-445.	1.9	68
21	Hybrid wireless-optical broadband access network (WOBAN): network planning and setup. IEEE Journal on Selected Areas in Communications, 2008, 26, 12-21.	9.7	66
22	Disaster-Aware Datacenter Placement and Dynamic Content Management in Cloud Networks. Journal of Optical Communications and Networking, 2015, 7, 681.	3.3	65
23	Greening the cloud using renewable-energy-aware service migration. IEEE Network, 2013, 27, 36-43.	4.9	62
24	Hybrid wireless-optical broadband access network(woban) : prototype development and research challenges. IEEE Network, 2009, 23, 41-48.	4.9	60
25	Software-defined optical networks (SDONs): a survey. Photonic Network Communications, 2014, 28, 4-18.	1.4	55
26	Auto-Scaling VNFs Using Machine Learning to Improve QoS and Reduce Cost. , 2018, , .		53
27	Sparse Wavelength Conversion in Wavelength-Routed WDM Optical Networks*. Photonic Network Communications, 1999, 1, 183-205.	1.4	49
28	A Scalable Approach for Service Chain Mapping With Multiple SC Instances in a Wide-Area Network. IEEE Journal on Selected Areas in Communications, 2018, 36, 529-541.	9.7	49
29	Survivable Multipath Provisioning With Differential Delay Constraint in Telecom Mesh Networks. IEEE/ACM Transactions on Networking, 2011, 19, 657-669.	2.6	48
30	Control Plane for Advance Bandwidth Scheduling in Ultra High-Speed Networks. , 2006, , .		46
31	Cost-Efficient VNF Placement and Scheduling in Public Cloud Networks. IEEE Transactions on Communications, 2020, 68, 4946-4959.	4.9	46
32	Reliable Multipath Provisioning for High-Capacity Backbone Mesh Networks. IEEE/ACM Transactions on Networking, 2007, 15, 803-812.	2.6	43
33	On service-chaining strategies using Virtual Network Functions in operator networks. Computer Networks, 2018, 133, 1-16.	3.2	41
34	Impairment Aware Routing, Bit Loading, and Spectrum Allocation in Elastic Optical Networks. Journal of Lightwave Technology, 2019, 37, 3009-3020.	2.7	40
35	RADAR: Risk-and-Delay Aware Routing Algorithm in a Hybrid Wireless-Optical Broadband Access Network (WOBAN). , 2007, , .		38
36	Holding-Time-Aware Dynamic Traffic Grooming. IEEE Journal on Selected Areas in Communications, 2008, 26, 28-35.	9.7	38

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37	On Hybrid IR and AR Service Provisioning in Elastic Optical Networks. Journal of Lightwave Technology, 2015, 33, 4659-4670.	2.7	38
38	Green Data Center Placement in Optical Cloud Networks. IEEE Transactions on Green Communications and Networking, 2017, 1, 347-357.	3.5	37
39	Energy-Efficient Long-Reach Passive Optical Network: A Network Planning Approach Based on User Behaviors. IEEE Systems Journal, 2010, 4, 449-457.	2.9	34
40	Rapid Data Evacuation for Large-Scale Disasters in Optical Cloud Networks [Invited]. Journal of Optical Communications and Networking, 2015, 7, B163.	3.3	33
41	Traveling Repairman Problem for Optical Network Recovery to Restore Virtual Networks After a Disaster [Invited]. Journal of Optical Communications and Networking, 2015, 7, B81.	3.3	32
42	Dynamic Workload Migration Over Backbone Network to Minimize Data Center Electricity Cost. IEEE Transactions on Green Communications and Networking, 2018, 2, 570-579.	3.5	29
43	Algorithms for Integrated Routing and Scheduling for Aggregating Data from Distributed Resources on a Lambda Grid. IEEE Transactions on Parallel and Distributed Systems, 2008, 19, 24-34.	4.0	28
44	A Comprehensive Study on Backup-Bandwidth Reprovisioning After Network-State Updates in Survivable Telecom Mesh Networks. IEEE/ACM Transactions on Networking, 2008, 16, 1366-1377.	2.6	27
45	Channel, capacity, and flow assignment in wireless mesh networks. Computer Networks, 2011, 55, 2241-2258.	3.2	27
46	Minimizing the Disaster Risk in Optical Telecom Networks. , 2012, , .		26
47	Energy Saving via Dynamic Wavelength Sharing in TWDM-PON. IEEE Journal on Selected Areas in Communications, 2014, 32, 1566-1574.	9.7	25
48	Bandwidth Provisioning for Virtual Machine Migration in Cloud: Strategy and Application. IEEE Transactions on Cloud Computing, 2018, 6, 967-976.	3.1	25
49	Low-Latency and Energy-Efficient BBU Placement and VPON Formation in Virtualized Cloud-Fog RAN. Journal of Optical Communications and Networking, 2019, 11, B37.	3.3	25
50	Disaster-resilient control plane design and mapping in software-defined networks. , 2015, , .		24
51	Disaster-survivable cloud-network mapping. Photonic Network Communications, 2014, 27, 141-153.	1.4	23
52	A Call-Admission Control (CAC) Algorithm for Providing Guaranteed QoS in Cellular Networks. International Journal of Wireless Information Networks, 2003, 10, 73-85.	1.8	22
53	Data Security in MANETs using Multipath Routing and Directional Transmission. , 2006, , .		21
54	Disaster-aware service provisioning with manycasting in cloud networks. Photonic Network Communications, 2014, 28, 123-134.	1.4	21

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55	RASCAR: Recovery-Aware Switch-Controller Assignment and Routing in SDN. IEEE Transactions on Network and Service Management, 2018, 15, 1222-1234.	3.2	21
56	Improved Approaches for Cost-Effective Traffic Grooming in WDM Ring Networks: Uniform-Traffic Case*. Photonic Network Communications, 2001, 3, 245-254.	1.4	20
57	Towards Global Optimization of Multiple ONU Placement in Hybrid Optical-Wireless Broadband Access Networks. , 2006, , .		20
58	Optimal Network Function Virtualization Realizing End-to-End Requests. , 2015, , .		20
59	MADF: Mobile-assisted data forwarding for wireless data networks. Journal of Communications and Networks, 2004, 6, 216-225.	1.8	19
60	Optimizing HTTP-based Adaptive Video Streaming for wireless access networks. , 2010, , .		18
61	Dynamic Scheduling of Survivable Connections with Delay Tolerance in WDM Networks. , 2009, , .		17
62	Heterogeneous Bandwidth Provisioning for Virtual Machine Migration over SDN-Enabled Optical Networks. , 2014, , .		17
63	On Provisioning in All-Optical Networks: An Impairment-Aware Approach. IEEE/ACM Transactions on Networking, 2009, 17, 1989-2001.	2.6	16
64	Joint Progressive Network and Datacenter Recovery After Large-Scale Disasters. IEEE Transactions on Network and Service Management, 2020, 17, 1501-1514.	3.2	16
65	Multilayer Protection with Availability Guarantees in Optical WDM Networks. Journal of Network and Systems Management, 2012, 20, 34-55.	3.3	15
66	Auto-Scaling Network Service Chains Using Machine Learning and Negotiation Game. IEEE Transactions on Network and Service Management, 2020, 17, 1322-1336.	3.2	15
67	The photonic ring: Algorithms for optimized node arrangements. Fiber and Integrated Optics, 1993, 12, 133-171.	1.7	14
68	Architecture, Control, and Management of Optical Switching Networks. , 2007, , .		14
69	Optimal Placement of Virtualized BBU Processing in Hybrid Cloud-Fog RAN over TWDM-PON. , 2017, , .		14
70	Holding-time-aware and availability-guaranteed connection provisioning in optical WDM mesh networks. , 2007, , .		13
71	Optimal Capacity Allocation in Wireless Mesh Networks. , 2008, , .		13
72	Interference-aware routing for multi-hop Wireless Mesh Networks. Computer Communications, 2010, 33, 1961-1971.	3.1	13

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73	Resilient cloud network mapping with virtualized BBU placement for cloud-RAN. , 2016, , .		13
74	Provisioning Short-Term Traffic Fluctuations in Elastic Optical Networks. IEEE/ACM Transactions on Networking, 2019, 27, 1460-1473.	2.6	13
75	Ethernet-over-SONET(EoS) over WDM in Optical Wide-Area Networks (WANs): Benefits and Challenges. Photonic Network Communications, 2005, 10, 107-118.	1.4	12
76	Cost-efficient live VM migration based on varying electricity cost in optical cloud networks. Photonic Network Communications, 2015, 30, 376-386.	1.4	12
77	Wavelet-Based Traffic Analysis for Identifying Video Streams over Broadband Networks. , 2008, , .		11
78	Dynamic SLA Redefinition for Shared-Path-Protected Connections with Known Duration. , 2008, , .		11
79	A disaster-resilient multi-content optical datacenter network architecture. , 2011, , .		11
80	IPTV over EPON: Synthetic traffic generation and performance evaluation. Optical Switching and Networking, 2015, 18, 180-190.	1.2	11
81	Risk-Aware Routing for Optical Transport Networks. , 2010, , .		10
82	Synthetic traffic generation for streaming video to model IPTV. , 2011, , .		10
83	Enhancing the Performance of Video Streaming in Wireless Mesh Networks. Wireless Personal Communications, 2011, 56, 535-557.	1.8	10
84	Robust upgrade in optical networks under traffic uncertainty. , 2012, , .		10
85	A survey on high-precision time synchronization techniques for optical datacenter networks and a zero-overhead microsecond-accuracy solution. Photonic Network Communications, 2018, 36, 56-67.	1.4	10
86	Robust hierarchical control plane for Transport Software-Defined Networks. Optical Switching and Networking, 2018, 30, 10-22.	1.2	10
87	OPN07-6: New Approaches for Dynamic Routing with Availability Guarantee for Differentiated Services in Survivable Mesh Networks: The Roles of Primary-Backup Link Sharing and Multiple Backup Paths. IEEE Global Telecommunications Conference (GLOBECOM), 2006, , .	0.0	9
88	Dynamic traffic grooming of subwavelength connections with known duration. , 2007, , .		9
89	Multi-Layer Resilient Design for Layer-1 VPNs. , 2008, , .		9
90	Load balancing and latency reduction in multi-user CoMP over TWDM-VPONs. , 2016, , .		9

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91	Data evacuation from data centers in disaster-affected regions through software-defined satellite networks. Computer Networks, 2019, 148, 88-100.	3.2	9
92	Emergency OPM Recreation and Telemetry for Disaster Recovery in Optical Networks. Journal of Lightwave Technology, 2020, 38, 2656-2668.	2.7	9
93	Design, Analysis, and a Terabit Implementation of a Source-Routing-Based SDN Data Plane. IEEE Systems Journal, 2021, 15, 56-67.	2.9	9
94	Routing and wavelength assignment in optical WDM networks with maximum quantity of edge disjoint paths. Photonic Network Communications, 2006, 12, 145-152.	1.4	8
95	The Evolution of Optical Networking [Scanning the Issue]. Proceedings of the IEEE, 2012, 100, 1017-1022.	16.4	8
96	QoE Enhancement Schemes for Video in Converged OFDMA Wireless Networks and EPONs. Journal of Optical Communications and Networking, 2018, 10, 229.	3.3	8
97	Virtualized controller placement for multi-domain optical transport networks using machine learning. Photonic Network Communications, 2020, 40, 126-136.	1.4	8
98	Infrastructure-efficient Virtual-Machine Placement and Workload Assignment in Cooperative Edge-Cloud Computing Over Backhaul Networks. IEEE Transactions on Cloud Computing, 2023, 11, 653-665.	3.1	8
99	Reliable multi-path provisioning for high-capacity optical backbone mesh networks. , 0, , .		7
100	Self-Healing Optical Access Networks (SHOAN) Operated by Optical Switching Technologies. IEEE Transactions on Network and Service Management, 2011, 8, 234-244.	3.2	7
101	Inverse multiplexing gain considering physical layer impairments in mixed line rate networks. , 2012, , .		7
102	Distributed sub-light-tree based multicast provisioning with shared protection in elastic optical datacenter networks. Optical Switching and Networking, 2019, 31, 39-51.	1.2	7
103	Application-Aware Service Degradation in Elastic Optical Networks. IEEE Transactions on Network and Service Management, 2022, 19, 949-961.	3.2	7
104	Impairment-aware Waveband Switching in Optical Networks. , 2007, , .		6
105	Call admission and handoff control in multi-tier cellular networks: algorithms and analysis. Wireless Personal Communications, 2007, 43, 857-878.	1.8	6
106	A novel approach to provision differentiated services in survivable IP-over-WDM networks. Optical Switching and Networking, 2008, 5, 170-176.	1.2	6
107	EPON protocol over coax (EPoC): overview and design issues from a MAC layer perspective?. , 2013, 51, 144-153.		6
108	Application-aware software-defined EPON access network. Photonic Network Communications, 2015, 30, 324-336.	1.4	6

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109	SLA-Aware Provisioning for Revenue Maximization in Telecom Mesh Networks. , 2008, , .		5
110	Efficient VoD Streaming for Broadband Access Networks. , 2008, , .		5
111	Isolation and resource efficiency of virtual optical networks. , 2012, , .		5
112	Mixed-line-rate optical network design with wavebanding. Optical Switching and Networking, 2012, 9, 286-296.	1.2	5
113	Running the Network Harder: Connection Provisioning Under Resource Crunch. IEEE Transactions on Network and Service Management, 2018, 15, 1615-1629.	3.2	5
114	Energy-Efficient vBBU Migration and Wavelength Reassignment in Cloud-Fog RAN. IEEE Transactions on Green Communications and Networking, 2021, 5, 18-28.	3.5	5
115	Title is missing!. Photonic Network Communications, 1999, 1, 35-48.	1.4	4
116	A Protocol for Efficient Tunable Laser Utilization to Support Incremental Upgrade in a WDM-PON. , 2007, , .		4
117	A new node architecture employing waveband-selective switching for optical burst-switched networks. IEEE Communications Letters, 2007, 11, 756-758.	2.5	4
118	Exploiting connection-holding time for an efficient dynamic traffic grooming. , 2007, , .		4
119	Event-Triggered Reprovisioning with Resource Preemption in WDM Mesh Networks: A Traffic Engineering Approach. , 2008, , .		4
120	Performance of 10G-EPON in streaming IPTV. , 2012, , .		4
121	Cost-efficient live VM migration based on varying electricity cost in optical cloud networks. , 2014, , .		4
122	Dynamic workload migration over optical backbone network to minimize data center electricity cost. , 2017, , .		4
123	Priority-aware scheduling for packet-switched optical networks in datacenter. , 2017, , .		4
124	Content Fragmentation: A Redundancy Scheme to Save Energy in Cloud Networks. IEEE Transactions on Green Communications and Networking, 2018, 2, 1186-1196.	3.5	4
125	The network user and its growing influence. Computer Communications, 2018, 131, 43-45.	3.1	4
126	Algorithms for Optimized Node Arrangements in ShuffleNet Based Multihop Lightwave Networks. Journal of High Speed Networks, 1995, 4, 361-383.	0.6	3

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127	The Advantages of Partitioning Multicast Transmissions in a Single-Hop Optical WDM Network*. Photonic Network Communications, 1999, 1, 111-124.	1.4	3
128	OPN03-4: Efficient Shared-Segment Protection Exploiting the Knowledge of Connection Holding Time. IEEE Global Telecommunications Conference (GLOBECOM), 2006, , .	0.0	3
129	On Provisioning in Dual-Node Interconnected SONET/SDH Rings. IEEE Journal on Selected Areas in Communications, 2008, 26, 36-46.	9.7	3
130	Analysis of inter-domain collaborative routing: provider competition for clients. Journal of Communications and Networks, 2011, 13, 499-510.	1.8	3
131	Progressive datacenter recovery over optical core networks after a large-scale disaster. , 2016, , .		3
132	Slice-Aware Service Restoration with Recovery Trucks for Optical Metro-Access Networks. , 2019, , .		3
133	MultiS-Net: A high-capacity, packet-switched, multichannel, single-hop architecture and protocol for a local lightwave network. Journal of High Speed Networks, 1996, 5, 221-241.	0.6	2
134	OPN04-6: Concentric Two-Ring Network for the African Continent: A Proposal. IEEE Global Telecommunications Conference (GLOBECOM), 2006, , .	0.0	2
135	A Better Approach to Reliable Multi-Path Provisioning. , 2007, , .		2
136	Time-Zone-Aware Traffic Grooming in IP-over-WDM Networks. , 2007, , .		2
137	A hop-constraint timing assembly algorithm for facilitating iBUS in IP-over-WDM networks. IEEE Communications Letters, 2009, 13, 703-705.	2.5	2
138	On downstream transmissions in EPON Protocol over Coax (EPoC): An analysis of Coax framing approaches and other relevant considerations. Photonic Network Communications, 2014, 28, 178-189.	1.4	2
139	Green and Low-Risk Content Placement in optical content delivery networks. , 2016, , .		2
140	ABNO-driven content distribution in the telecom cloud. Optical Switching and Networking, 2017, 26, 25-38.	1.2	2
141	Dynamic Controller Deployment for Mixed-Grid Optical Networks. , 2018, , .		2
142	Energy-Efficient Baseband Processing via vBBU Migration in Virtualized Cloud-Fog RAN. , 2019, , .		2
143	Light-Trail Design for 5G Backhaul: Architecture, SDN Impact and Coordinated Multipoint. Journal of Lightwave Technology, 2021, 39, 5383-5396.	2.7	2
144	Concentric Two-Ring Network (CTRN): RWA Algorithms and Protection Schemes. , 2006, , .		1

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145	Impacts of Multiple Backups and Multi-Link Sharing among Primary and Backups for Dynamic Service Provisioning in Survivable Mesh Networks. , 2007, , .		1
146	Mathematical formulation of provisioning of connections with advance reservation in metro WDM ring networks using reconfigurable OADMs (ROADMs) with tuning constraint. Photonic Network Communications, 2007, 14, 273-285.	1.4	1
147	CORIN/DORIN: A WDM-enabled platform for aero-engine control systems. , 2008, , .		1
148	A Two-Ring Access Network Operated by Crossbar-Enabled OLTs: Cost-Effective Robust Protection in Broadband Access Networks. , 2008, , .		1
149	On downstream coax framing in EPON protocol over coax (EPoC). , 2013, , .		1
150	Adaptive timeâ€•and locationâ€•aware routing in telecom mesh networks. IET Networks, 2013, 2, 19-29.	1.1	1
151	Optimal Network Function Virtualization Realizing End-to-End Requests. , 2014, , .		1
152	Cloud-Network Disaster Recovery against Cascading Failures. , 2015, , .		1
153	Virtualized Controller Placement for Multi-domain Optical Transport Networks. Lecture Notes in Computer Science, 2020, , 39-50.	1.0	1
154	Title is missing!. Photonic Network Communications, 2003, 6, 105-117.	1.4	0
155	Resource Planning and Bandwidth Allocation for Upgrading Ethernet Passive Optical Networks. , 2006, , .		0
156	Shared-Wavelength WDM-PON Access Network --- Bursty Traffic Accommodation and User-defined SLA Support. , 2006, , .		0
157	Accumulated-Downtime-Aware Restoration Approach for Dynamic SLA-Differentiated Services in Survivable Mesh Networks. , 2008, , .		0
158	Analysis of Patching Scheme from a Practical Perspective. , 2009, , .		0
159	Guest Editorial on Converged Optical Network Infrastructures in Support of Future Internet and Grid Services Special Issue. Journal of Lightwave Technology, 2009, 27, 1749-1753.	2.7	0
160	BER-aware wavelength allocation schemes for long-reach PON employing AWG-based remote node. , 2011, , .		0
161	Guest Editorial on the Optical Fiber Communication Conference and Exposition (OFC) and the National Fiber Optic Engineers Conference (NFOEC). Journal of Lightwave Technology, 2012, 30, 381-383.	2.7	0
162	Cloud-Network Disaster Recovery against Cascading Failures. , 2014, , .		0

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163	Efficient relocation of virtual spare resources over optical backbone networks. , 2015, , .		0
164	Post-disaster data evacuation from isolated data centers through LEO satellite networks. , 2017, , .		0